

BAB VI

KESIMPULAN DAN SARAN

6.1. Kesimpulan

1. Hasil penelitian menunjukkan bahwa kombinasi bubuk beluntas dan teh hijau pada berbagai proporsi berpengaruh nyata terhadap senyawa fitokimia, total fenol, total flavonoid, kemampuan menangkal radikal bebas DPPH dan kemampuan mereduksi ion besi minuman beluntas teh hijau.
2. Minuman beluntas teh hijau memiliki total fenol berkisar antara 451,13-707,63 mg GAE/L sampel, total flavonoid berkisar antara 95,73-413,73 mg CE/L sampel, kemampuan menangkal radikal bebas DPPH berkisar antara 193,38-277,79 mg GAE/L sampel dan kemampuan mereduksi ion besi berkisar antara 211,50-499,50 mg GAE/L sampel.
3. Hasil penelitian minuman beluntas teh hijau dapat memperbaiki aktivitas antioksidan minuman beluntas pada peneltian sebelumnya. Hasil penelitian menunjukkan bahwa kombinasi beluntas dan teh hijau pada proporsi tertentu dapat meningkatkan aktivitas antioksidan minuman beluntas dan yang memiliki akitvitas antioksidan tertinggi adalah perlakuan P3.

6.2. Saran

Terbentuknya agregat dan endapan yang disebabkan oleh reaksi antara komponen dalam beluntas dan teh hijau setelah 15 menit penyeduhan dapat mempengaruhi aktivitas antioksidan minuman beluntas teh hijau. Oleh karena itu perlu penelitian lebih lanjut tentang waktu yang tepat untuk

mengonsumsi minuman beluntas teh hijau sehingga mendapat aktivitas antioksidan yang terbaik.

DAFTAR PUSTAKA

- Al-Temimi, A. and R. Choudhary. 2013. Determination of Antioxidant Activity In Different Kinds of Plants In Vivo and In Vitro By Using Diverse Technical Methods. *Journal Nutrition of Food Science* 3:1-9. <http://www.omicsonline.org/determination-of-antioxidant-activity-in-different-kinds-of-plants-in-vivo%20and-in-vitro-by-using-diverse-technical-methods-2155-9600.1000184.pdf> (5 September 2015).
- Andarwulan, N., R. Batari, D.A. Sandrasari, B. Bolling, and H. Wijaya. 2010. Flavonoid Content and Antioxidant Activity of Vegetables from Indonesia. *Food Chemistry* 121:1231-1235. https://www.academia.edu/18074604/Flavonoid_content_and_antioxidant_activity_of_vegetables_from_Indonesia (11 Desember 2015).
- AOAC. 2005. *Method of Analysis*. Washington: Association of Official Analytical Chemistry. USA: AOAC International. p. 979.12.
- Apriadi, R. A. 2010. Identifikasi Senyawa Asam Fenolat pada Sayuran *Indigenous* Indonesia. *Skripsi S-1*. Fakultas Teknologi Pertanian Institut Pertanian Bogor. repository.ipb.ac.id (29 Oktober 2015).
- Ardiansyah, L. Nuraida, dan N. Andarwulan. 2003. Aktivitas Antimikroba Ekstrak Daun Beluntas (*Pluchea indica* L.) dan Stabilitas Aktivitasnya pada Berbagai Konsentrasi Garam dan Tingkat pH. *Jurnal Teknologi dan Industri Pangan* 14(2):90-97. <http://journal.ipb.ac.id/index.php/jtip/article/view/710/4195> (17 September 2015).
- Balasundram, N., K. Sundram, and S. Samman. 2006. Phenolic Compounds in Plants and Agri-industrial by-products: Antioxidant Activity, Occurrence, and Potential Uses. *Food Chemistry* 99:191-203. <http://www.sciencedirect.com/science/article/pii/S0308814605006242> (26 Agustus 2015).
- Balentine D. 1997. Tea and Health. *Critical Reviews in Food Science and Nutrition* 37(8): 691-692. <http://www.tandfonline.com/doi/pdf/10.1080/10408399709527796> (23 September 2015).

- Balittri, J. T. 2013. Kandungan Senyawa Kimia Pada Daun Teh. *Warta Penelitian dan Pengembangan Tanaman Industri* 19(3):12-16.
http://perkebunan.litbang.pertanian.go.id/wp-content/uploads/2014/01/perkebunan_warta-vol19No3-2013-4.pdf
 (17 September 2015).
- Bendra, A. 2012. Uji Aktivitas Antioksidan Ekstrak Daun *Premnaoblongata* Miq. Dengan Metode DPPH dan Identifikasi Golongan Senyawa Kimia dari Fraksi Teraktif. *Skripsi S-1*, Fakultas Matematika dan Ilmu Pengetahuan Alam, Universitas Indonesia, Depok
<http://lib.ui.ac.id/file?file=digital/20309442-S42687-Atika%20Bendra.pdf> (30 September 2015)
- Bharadwaz, A. and C. Bhattacharjee. 2012. Extraction of Polyphenols from Dried Tea Leaves. *International Journal of Scientific & Engineering Research*. 3(5): 1-4.
<http://www.ijser.org/researchpaper%5CExtraction-of-Polyphenols-from-Dried-Tea-Leaves.pdf> (28 September 2015).
- Brewer, M.S. 2011. Natural Antioxidants: Sources, Compounds, Mechanisms of Action, and Potential Applications. *Comprehensive Reviews in Food Science and Food Safety* 10: 221-247.
<http://onlinelibrary.wiley.com/doi/10.1111/j.1541-4337.2011.00156.x/pdf> (6 Oktober 2015).
- Cabrera, C., R. Artacho, and R. Gimenez, 2006. Beneficial Effects of Green Tea- A Review. *Jornal of the American College of Nutrition*, 25(2): 79- 99. <http://www.jacn.org/content/25/2/79.full.pdf+html>. (20 September 2015).
- Cahyadi, W. 2006. Analisis dan Aspek Kesehatan Bahan Pangan. Jakarta: Bumi Aksara. Hal 120-121.
- Chaieb, I. 2010. Saponins as Insectisides: A review. *Tunisian Journal of Plant Protection* 5(1): 39-50.
<http://www.iresa.agrinet.tn/tjpp/tjpp9/4Ikbal.pdf> (20 September 2015).
- Chung, K.T., T.Y. Wong, C.I. Wei, Y.W. Huang and Y. Lin. 1998. Tannins and human health: A review. *Critical Reviews in Food Science and Nutrition* 38(6): 421-464.
http://www.researchgate.net/publication/13525611_Tannins_and_Human_Health_A_Review (23 September 2015).

- Cos, P., D. Bruyne T, N. Hermans, S. Apers, D.V. Berge, and A.J. Vietinck. 2004. Proanthocyanidins in health care: Current and new trends. *Current Medicinal Chemistry* 11(10): 1345-1359 <http://dx.doi.org/10.2174/0929867043365288> (9 September 2015).
- Crozier, A. (Ed). 2006. Plant Secondary Metabolites: Occurrence, Structure and Role in Human Diet. USA: Blackwell Publishing. p. 102.
- Dalimartha, S. 2008. *Atlas Tumbuhan Obat Indonesia*. Jakarta: Trubus Agriwidaya. Hal 18-19. https://books.google.co.id/books?id=7Xnukm8rY4C&pg=PA18&dq=tanaman+beluntas&hl=en&sa=X&redir_esc=y#v=onepage&q=tanaman%20beluntas&f=false (20 September 2015).
- Das, T.K., D. Banerjee, D. Chakraborty, M.C. Pakhira, B. Shrivastava and R.C.Kuhad. 2012. Saponin: Role in Animal System Review. *Veterinary World* 5(4): 248-254 <http://www.veterinaryworld.org/Vol.5/April%202012/Saponin-%20Role%20in%20Animal%20system.pdf> (7 September 2015).
- Deetae, P., P. Parichanon., P. Trakunleewatthana., C. Chanseetis., and S. Lertsiri. 2012. Antioxidant and Anti-glycation Properties of Thai Herbal Teas in Comparison with Conventional Teas. *Food Chemistry* 133(3): 953-959. <http://www.thaiscience.info/Article%20for%20ThaiScience/Article/1/Ts-1%20antioxidant%20and%20anti-glycation%20properties%20of%20thai%20herbal%20teas%20in%20comparison%20with%20conventional%20teas.pdf> (30 September 2015).
- Gardjito, M dan D. Rahadian. 2011. Teh. Yogyakarta: Kanisius. Hal 62-64
- Gramza, A., J. Korczak., and R. Amarowicz. Tea Polyphenols-Their Antioxidant Properties and Biological Activity. *Polish Journal of Food and Nutrition Sciences* 14(3):219-235. <http://journal.pan.olsztyn.pl/fd.php?f=528> (18 November 2015).
- Hafeez, E.Y.A., N.S. Karamova and O.N. Ilinskaya. 2014. Antioxidant activity and total phenolic compound content of certain medicinal plants. *International Journal of Biosciences* 5(9): 213-222. https://www.researchgate.net/publication/269703085_Antioxidant_

activity_and_total_phenolic_compound_content_of_certain_medicinal_plants (16 Desember 2015)

- Hagerman, A. E. 2002. *Tannin Chemistry*. Department of Chemistry and Biochemistry, Miami University.
<http://www.researchgate.net/file.PostFileLoader.html?id=5261ed24d4c118ba41b114d3&assetKey=AS%3A272155105792002%401441898241144> (23 September 2015).
- Halim, M. O. 2015. Pengaruh Proporsi Tepung Daun Beluntas (*Pluchea Indica* Less) dan Teh Hitam Terhadap Sifat Fisikokimia, Sifat Organoleptik, dan Aktivitas Antioksidan Produk Minuman, *Skripsi* S-1, Fakultas Teknologi Pertanian UKWMS, Surabaya.
- Hamid, A.A., O.O. Aiyelaagbe., L.A. Usman., O. M. Ameen and A. Lawal. 2010. Antioxidants: Its medicinal and pharmacological applications. *African Journal of Pure and Applied Chemistry* 4(8): 142-151
http://www.researchgate.net/publication/228635229_Antioxidants_Its_medicinal_and_pharmacological_applications (27 September 2015).
- Harborne, J.B. 1996. *Metode Fitokimia*. Penerjemah: Padmawinata, K. dan I. Soediro. Bandung: Institut Teknologi Bandung-Press. Hal 153.
- Hardiana, R., Rudiyanasyah, dan T.A. Zaharah. 2012. Aktivitas Antioksidan Senyawa Golongan Fenol dari Beberapa Jenis Tumbuhan Famili *Malvaceae*. *Jurnal Kimia dan Kemasan* 1(1):8-13.
<http://jurnal.untan.ac.id/index.php/jkkmipa/article/viewFile/991/940> (30 September 2015).
- Hariana, A. 2013. 262 Tumbuhan Obat dan Khasiatnya. Jakarta: Penebar Swadaya Hal 7; 57 https://books.google.co.id/books?id=bp-0CAAAQBAJ&pg=PP4&dq=Tumbuhan+Obat+dan+Khasiatnya&hl=en&sa=X&redir_esc=y#v=onepage&q=Tumbuhan%20Obat%20dan%20Khasiatnya&f=false (15 September 2015).
- Hariato, I. 2015. Pengaruh Konsentrasi Tepung Daun Beluntas (*Pluchea Indica* Less) Terhadap Sifat Fisikokimia, Organoleptik, dan Aktivitas Antioksidan pada Minuman, *Skripsi* S-1, Fakultas Teknologi Pertanian UKWMS, Surabaya.
- Hartoyo, A. 2003. *Teh dan Khasiatnya Bagi Kesehatan*. Yogyakarta: Kanisius. Hal 11-12

- Huang, D., B. Ou, and R.L. Prior. 2005. The Chemistry Behind Antioxidant Capacity Assays. *Journal of Agricultural and Food Chemistry* 53(6): 1841–1856. <http://dx.doi.org/10.1021/jf030723c> (23 September 2015).
- Irawati, S. 2013. *Isolasi Alkaloid dari Daun Beluntas (Pluchea indica Less). Skripsi S-1*. Fakultas Teknik Kimia Institut Teknologi Sepuluh November, Surabaya (<http://digilib.its.ac.id/isolasi-alkaloid-dari-daun-beluntaspluchea-indica-less-25630.html>). (20 Desember 2015).
- Juniarti, D., Osmeli, dan Yuhernita. 2009. Kandungan Senyawa Kimia, Uji Toksisitas (Brine Shrimp Lethality Test) dan Antioksidan (1,1-difenil-2-pikrilhidrasil) dari Ekstrak Daun Saga (*Abrus precatorius* L.). *Makara Sains* 13(1):50-54. <http://repository.ui.ac.id/contents/koleksi/2/b492aa5a22f6f8a763256f2afac928044a734274.pdf> (28 September 2015).
- Juniarti dan Yuhernita. 2011. Analisa Senyawa Metabolit Sekunder dari Ekstrak Metanol Daun Surian yang Berpotensi sebagai Antioksidan. *Makara Sains*. 15(1): 48-52. <http://journal.ui.ac.id/science/article/viewFile/877/836> (30 September 2015).
- Juwita, D.A., N. Suharti., dan R. Rasyid. 2013. Isolasi Jamur Pengurai Pati dari Tanah Limbah Sagu. *Jurnal Farmasi Andalas* 1(1):35-41. <http://jfa.ffarmasi.unand.ac.id/index.php/jfa/article/download/7/6> (11 Desember 2015).
- Koleckar, V., K. Kubikova, Z. Rehakova, K. Kuca, D. Jun, L. Jahodar and L. Opletal. 2008. Condensed and Hydrolysable Tannins As Antioxidants Influencing The Health. *Mini-Reviews in Medicinal Chemistry* 8(5): 436-447. http://www.researchgate.net/publication/5377542_Condensed_and_Hydrolysable_Tannins_as_Antioxidants_Influencing_the_Health (22 Agustus 2015).
- Kumar, S. and A.K. Pandey. 2013. Chemistry and Biological Activities of Flavonoids: An Overview. *The Scientific World Journal*. https://www.researchgate.net/publication/259957595_Chemistry_and_Biological_Activities_of_Flavonoids_An_Overview (21 Desember 2015).

- Kurniawati, M. 2007. Penentuan Formula Antioksidan Untuk Menghambat Ketengikan Pada Bumbu Ayam Goreng Kalasan Selama Satu Bulan. *Skripsi S-1*, Fakultas Teknologi Pertanian IPB, Bogor. http://repository.ipb.ac.id/bitstream/handle/123456789/11837/F07mku_abstract.pdf;jsessionid=F3CF51C445946F06E097B9BD2B4AF4FE?sequence=1 (6 Oktober 2015).
- Kusuma, F.A. 2014. Perbedaan Jenis Pelarut Terhadap Aktivitas Antioksidan Ekstrak Daun Beluntas (*Pluchea Indica* Less) dengan Metode DPPH (2,2-diphenyl-1-picrylhydrazyl). *Skripsi S-1*, Fakultas Teknologi Pertanian UKWMS, Surabaya.
- Kusumaningati, R.W. 2009. Analisa Kandungan Fenol Total Jahe (*Zingiber officinaleRoscoe*) Secara *In vitro*.*Skripsi S-1*. Fakultas Kedokteran Universitas Indonesia. <http://www.lontar.ui.ac.id/detail.jsp?id=122949&lokasi=lokal#hori zontalTab2> (12 Desember 2015).
- Lee, L.. S.H. Kim. Y.B.Kim and Y.C. Kim. 2014. Quantitative Analysis of Major Constituents in Green Tea with Different Plucking Periods and Their Antioxidant Activity. *Molecules* 19: 9173-9186. <http://www.mdpi.com/1420-3049/19/7/9173/pdf> (19 September 2015).
- Mahmood, T., N. Akhtar, and B.A. Khan. 2010. The Morphology, Characteristics, and Medicinal Properties of Camellia Sinensis' Tea. *Journal of Medicinal Plants Research*, 4(19): 2028-2033. <http://www.academicjournals.org/jmpr/PDF/pdf2010/4Oct/Mahmood%20et%20al.pdf>. (20 September 2015).
- Maiza-Benabdesselam, F., S. Khentache, K. Bougoffa, M. Chibane, S. Adach, Y. Chapeleur, H. Max, and D. Laurain-Mattar. 2007. Antioxidant Activities of Alkaloid Extracts of Two Algerian Species of *Fumaria*: *Fumaria capreolata* and *Fumaria bastardii*. *Records of Natural Products* 1(3):28-35 <http://www.acgpubs.org/RNP/2007/Volume%201/Issue%201/RNP%20fumaria.pdf> (28 September 2015).
- Meda, A., C. E. Lamien., M. Romito., J. Millogo and O. G. Nacoulma. 2005. Determination of the total phenolic, flavonoid and proline contents in Burkina Fasan Honey, As Well As Their Radical Scavenging Activity. *Food Chemistry* 91: 571-577. https://www.researchgate.net/publication/223275408_Determination_of_the_total_phenolic_flavonoid_and_proline_Contents_in_Bur

- kina_Fasan_Honey_as_well_as_their_radical_scavenging_activity.
(25 Januari 2016).
- Michalak, A. 2006. Phenolic Compounds and Their Antioxidant Activity in Plants Growing under Heavy Metal Stress Review. *Polish Journal of Environment Studies* 15(4): 523-530.
<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.461.2661&rep=rep1&type=pdf> (25 Agustus 2015).
- Michałowicz, J. and W. Duda. 2007. Phenols - Sources and Toxicity Review. *Polish Journal of Environment Studies* 16(3): 347-362.
<http://www.pjoes.com/pdf/16.3/347-362.pdf> (18 September 2015).
- Middleton, E., C. Kandaswami and T.C. Theoharides. 2000. The Effect of Plants Flavanoids on Mammalian Cells Implication for Inflammation, Heart Disease and Cancer. *Pharmacological Reviews* 52(4): 673-751.
<http://pharmrev.aspetjournals.org/content/52/4/673.full> (15 September 2015).
- Molyneux, P. 2004. The Use of Stable Free Radical *Diphenylpicrylhydrazyl* (DPPH) for Estimating Antioxidant Activity. *Journal Science Technology* 26(2):211-219.
<http://rdo.psu.ac.th/sjstweb/journal/26-2/07-DPPH.pdf> (30 September 2015).
- Mukhtar, H. and N. Ahmad. 2000. Tea Polyphenols: prevention of cancer and optimizing health. *American Journal of Clinical Nutrition* 71(6):1698-1702.
<http://ajcn.nutrition.org/content/71/6/1698s.full.pdf+html> (17 September 2015).
- Muntana, N., and S. Prasong. 2010. Study on Total Phenolic Contents and Their Antioxidant Activities of Thai White, Red, and Black Rice Bran Extracts. *Pakistan Journal of Biological Sciences* (13)4:170-174.
http://www.researchgate.net/publication/44568678_Study_on_Total_Phenolic_Contents_and_their_Antioxidant_Activities_of_Thai_White_Red_and_Black_Rice_Bran_Extracts (21 Oktober 2015).
- Nardini, M., and A.Ghiselli. 2003. Determination of Free and Bound Phenolic Acids in Beer. *Analytical Nutritional and Clinical Methods* 84(1): 137-143. <http://ac.els-cdn.com/S0308814603002577/1-s2.0-S0308814603002577->

main.pdf?_tid=6837abb0-892a-11e5-87dd-00000aab0f27&acdnat=1447325273_b85c8fc8756817afe40179e251132606 (17 Oktober 2015).

- Oloyede, K. G., M. J. Oke, Y. Raji and A. T. Olugbade. 2010. Antioxidant and Anticonvulsant Alkaloids in *Crinum ornatum* Bulb. *World Journal of Chemistry* 5(1): 26-31 <http://www.idosi.org/wjc/5%281%2910/4.pdf> (19 Agustus 2015).
- Ozcan, T., A. Akpinar, L. Bayizit, Yilmaz-Ersan and B. Delikanli. 2014. Phenolics in Human Health. *International Journal of Chemical Engineering and Applications* 5(5): 393-396. <http://www.ijcea.org/papers/416-N0002.pdf> (12 September 2015).
- Pal, D., S. Saha, and S. Singh 2012. Importance of Pyrazole Moiety in The Field of Cancer. *International Journal of Pharmacy and Pharmaceutical Sciences* 4(2): 98-104. <http://www.ijppsjournal.com/Vol4Issue2/3712.pdf> (4 September 2015).
- Pal,D. and P. Verma. 2013. Flavonoids: A Powerful and Abundant Source Of Antioxidants. *International Journal of Pharmacy and Pharmaceutical Sciences* 5(3): 95-98 <http://www.ijppsjournal.com/Vol5Issue3/7048.pdf>. (4 September 2015).
- Pallab, K., K. B. Tapan, K. P. Tapas, and K. Ramen. 2013. Estimation of Total Flavonoids Content (TFC) and Antioxidant Activities of Methanolic Whole Plant Extract of *Biophytum sensitivum* Linn. *Journal of Drug Delivery and Therapeutics* 3(4):33-37. <http://jddtonline.info/index.php/jddt/article/download/546/316> (16 Agustus 2015).
- Peterson, J., J. Dwyer., S. Bhagwat., D. Haytowitz., J. Holden., A.L. Eldridge., G. Beecher., and J. Aladesanmi. 2005. Major Flavonoids in Dry Tea. *Journal of Food Composition and Analysis* 18: 487-501. <http://pubag.nal.usda.gov/pubag/downloadPDF.xhtml?id=7266&content=PDF> (10 Desember 2015).
- Pokorny, J., N. Yanislleva, and M. Gordon. 2001. *Antioxidants in Food: Practical Application*. https://www.academia.edu/7653340/Antioxidants_in_Food_Practical_Applications_Jan_Pokorny_Nedyalka_Yanishlieva_Michael_Gordon. (4 Oktober 2015). p.30

- Purba, C. Y. C. 2011. Bioaktivitas Ekstrak Kayu Teras Suren (*Toona sinensis* Roemor) dan Profil Kromatografi Lapis Tipis Fraksi Aktivnya. *Skripsi S-I*. Fakultas Kehutanan Institut Pertanian Bogor. <http://repository.ipb.ac.id/handle/123456789/53776> (11 Desember 2015).
- Rekha, C., G. Poornima, M. Manasa., V. Abhipsa., J. P. Devi., H.T.V. Kumar and T.R.P. Kekuda. 2012. Ascorbic Acid, Total Phenol Content and Antioxidant Activity of Fresh Juices of Four Ripe and Unripe Citrus Fruits. *Journal of Chemical Science Transactions* 1(2):303-310. <http://www.e-journals.in/PDF/V1N2/303-310.pdf> (20 Desember 2015).
- Rice-Evans, C.A., N.J. Miller, and G.Paganga, 1997. Antioxidant Properties of Phenolic Compounds. *Trends in Plant Research* 3(4):436-444
<http://www.sciencedirect.com/science/article/pii/S1360138597010182> (19 September 2015).
- Rukmiasih, P.S. Hardjosworo., W.G. Piliang., J. Hermanianto dan A. Apriyantono. 2010. Penampilan, Kualitas Kimia dan *Off-Odor* Daging Itik (*Anas platyrhynchos*) yang Diberi Pakan Mengandung Beluntas (*Pluchea indica* L. Less) *Media Peternakan* 33(2):68-75.
<http://medpet.journal.ipb.ac.id/index.php/mediapeternakan/article/viewFile/1696/739> (13 Januari 2016)
- Saeed, N., M.R. Khan., and M. Shabbir. 2012. Antioxidant activity, total phenolic and total flavonoid contents of whole plant extracts *Torilis leptophylla* L. *BMC Complementary and Alternative Medicine* 12:221. <http://www.biomedcentral.com/1472-6882/12/221> (15 September 2015).
- Saxena, Mamta., J. Saxena, R. Nema, D. Singh and A. Gupta. 2013. Phytochemistry of Medicinal Plants. *Journal of Pharmacognosy and Phytochemistry* 1(6): 168-182.
http://www.phytojournal.com/vol1Issue6/Issue_march_2013/26.pdf (12 Agustus 2015).
- Sharma, V.K., A. Bhattacharya., A. Kumar., and H. K. Sharma. 2007. Health Benefits of Tea Consumption. *Tropical Journal of Pharmaceutical Research* 6 (3): 785-792.

http://www.researchgate.net/publication/261177766_Health_benefits_of_tea_consumption (20 Agustus 2015).

Silalahi, J. 2006. Makanan Fungsional. Yogyakarta: Kanisius. Hal 19.

Sinija, V.R. and H.N. Mishra. 2008. Green tea: Health Benefits. *Journal of Nutritional and Environmental Medicine* 17(4): 232-242. <http://www.7starsma.com/images/TEA-Article-14.pdf> (22 September 2015).

Song, M.Y., Lv. Na, E.K. Kim, K.S. Kwon, Y.B. Yoo, J.H. Kim, S.W. Lee, J.H. Song, J.H. Lee, S.K. Lee, B.C. Shin D.G. Ryu, B.H. Park, and K.B. Kwon. 2009. Antiobesity Activity of Aqueous Extracts of Rhizoma Dioscoreae Tokoronis on High-Fat Diet-Induced Obesity in Mice. *Journal of Medicinal Food* 12(2):304-309. http://www.researchgate.net/publication/24443897_Antiobesity_Activity_of_Aqueous_Extracts_of_Rhizoma_Dioscoreae_Tokoronis_on_High-Fat_Diet-Induced_Obesity_in_Mice (20 Agustus 2015).

Soraya, N. 2007. Sehat dan Cantik Berkat Teh Hijau. Jakarta: Penebar Plus. Hal 23-24

Subhasini, R., U.S.M. Rao., P. Sumathi., and G. Gunalan. 2010. A Comparative Phytochemical Analysis of Cocoa and Green tea. *Indian Journal of Science and Technology*. 3(2):188-192. <http://www.indjst.org/index.php/indjst/article/view/29676> (18 November 2015)

Sudirman, S. 2011. Aktivitas Antioksidan dan Komponen Bioaktif Kangkung Air (*Ipomoea aquatica* Forsk.). *Skripsi S-1*. Fakultas Perikanan dan Ilmu Kelautan Institut Pertanian Bogor. <http://repository.ipb.ac.id/handle/123456789/47230> (11 Desember 2015).

Sulistyaningsih. 2009. Potensi Daun Beluntas (*Pluchea Indica* Less.) Sebagai Inhibitor Terhadap *Pseudomonas Aeruginosa Multi Resistant* dan *Methicillin Resistant Stapylococcus Aureus*, *Laporan Penelitian Mandiri*, Fakultas Farmasi, Universitas Padjadjaran, Bandung. Hal 19 http://pustaka.unpad.ac.id/wpcontent/uploads/2010/11/potensi_daun_beluntas.pdf (5 Oktober 2015).

Sultana, B., F. Anwar., and M. Ashraf. 2009. Effect of Extraction Solvent/Technique on the Antioxidant Activity of Selected

- Medicinal Plant Extracts. *Molecules* 14: 2167-2180. <http://www.mdpi.com/1420-3049/14/6/2167/pdf> (20 Oktober 2015).
- Suriyaphan, O. 2014. Nutrition, Health Benefits and Applications of *Pluchea indica* (L.) Less Leaves. Mahidol University *Journal of Pharmaceutical Sciences* 41(4):1-10. http://www.pharmacy.mahidol.ac.th/mujournal/_files/2014-4_1-4_01-10.pdf (12 Desember 2015).
- Syah, A. N. A. 2006. *Taklukkan Penyakit dengan Teh hijau*. Jakarta: Agromedia Pustaka. Hal 48-49.
- Tapas, A. R ., D. M. Sakarkar and R.B. Kakde.2008. Flavonoids as Nutraceuticals: A Review. *Tropical Journal of Pharmaceutical Research* 7(3): 1089-1099. <http://www.bioline.org.br/pdf?pr08030> (17 Oktober 2015).
- Tsai, C.Y., Y.H. Chen, W.H. Huang and S.H. Lin. 2010. Effect of Soy Saponin on The Growth of Human Colon Cancer Cells. *World Journal of Gastroenterology* 16(27): 3371-3376. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2904882/> (22 Agustus 2015).
- Valko M, C.J. Rhodes, J. Moncol, M. Izakovic, and M. Mazur. 2006. Free Radicals, Metals and Antioxidants in Oxidative Stress-Induced Cancer. *Chemico-Biological Interactions* 160(1):1–40. <http://www.sciencedirect.com/science/article/pii/S0009279705004333> (19 Agustus 2015).
- Verzelloni, E., D. Tagliazucchi and A. Conte. 2007. Relationship Between The Antioxidant Properties and The Phenolic and Flavonoid Content in Traditional Balsamic Vinegar. *Food Chemistry* 105: 564-571. https://www.researchgate.net/publication/231614900_Relationship_between_the_antioxidant_properties_and_the_phenolic_and_flavonoid_content_in_traditional_balsamic_vinegar (25 Januari 2016).
- Wahyudin, A. 2006. Dampak Penggunaan Tepung Daun Beluntas (*Pluchea Indica L.*) Dalam Pakan Terhadap Penampilan Dan Komposisi Karkas Itik Lokal Jantan, *Skripsi S-1*, Fakultas Peternakan, Institut Pertanian Bogor, Bogor.. <http://repository.ipb.ac.id/bitstream/handle/123456789/3216/A>

- RIF%20WAHYUDIN_D2006.pdf?sequence=4&isAllowed=y (29 September 2015).
- Wei, K., L.Y. Wang., J. Zhou., W. He. J.M. Zeng., Y. W. Jiang., and H. Cheng. 2012. Comparison of catechins and purine alkaloids in albino and normal green tea cultivars (*Camelia Sinensis* L.) by HPLC. *Food Chemistry* 130(3):720-724. <http://www.sciencedirect.com/science/article/pii/S0308814611010533> (11 Desember 2015).
- Widyawati, P. S., C. H. Wijaya, P.S. Hardjosworo, dan D. Sajuthi. 2011. Evaluasi Aktivitas Antioksidatif Ekstrak Daun Beluntas (*Pluchea indica*) Berdasarkan Perbedaan Ruas Daun. *Rekapangan Jurnal Teknologi Pangan* 5(1):1-14. <http://download.portalgaruda.org/article.php?article=180904&val=6221&title=Antioksidan%20Beluntas> (20 September 2015).
- Widyawati, P. S. C. H. Wijaya, P. S. Hardjosworo, dan D. Sajuthi. 2012. Aktivitas Antioksidan Berbagai Fraksi dan Ekstrak Metanolik Daun Beluntas (*Pluchea indica* Less). *Agritech* 32(3): 249-257. <http://www.jurnal-agritech.tp.ugm.ac.id/ojs/index.php/agritech/article/view/247> (28 Agustus 2015).
- Widyawati, P.S., T. D. W. Budianta., F. A. Kusuma., and E. L. Wijaya. 2014. Difference of Solvent Polarity To Phytochemical Content and Antioxidant Activity of *Pluchea indica* Less Leaves Extracts. *International Journal of Pharmacognosy and Phytochemical Research* 6(4): 850-855. <http://ijppr.com/volume6issue4article29/> (4 November 2015)
- Winarsi, H. 2007. *Antioksidan Alami dan Radikal Bebas*. Yogyakarta: Kanisius. Hal 17;77-78 https://books.google.co.id/books?id=A1C1KQ2Oaj0C&pg=PA3&dq=winarsi+2007&hl=en&sa=X&redir_esc=y#v=onepage&q=winarsi%202007&f=false (22 Agustus 2015).
- Winarti, S., 2006. *Minuman Kesehatan*. Surabaya: Trubus Agrisarana. Hal 5;11
- Yan, Li., Y. Du and C. Zou. 2009. Effect of pH on Antioxidant and Antimicronial Properties of Tea Saponins. *European Food Research and Technology* 228(6): 1023-1028. www.researchgate.net/publication/225645916_Effects_of_pH_on_

antioxidant_and_antimicrobial_properties_of_tea_saponins._Eur_Food_Res_Technol (10 Agustus 2015).

- Yaunatan, D. I. 2014. Perbedaan Jenis Pelarut terhadap Aktivitas Antidiabetik Ekstrak Daun Beluntas (*Pluchea indica Less.*), *Skripsi* S-1. Fakultas Teknologi Pertanian, UKWMS, Surabaya.
- Zhu, H., Y. Z Wang, Y. X. Liu, Y. L. Xia, and T. Tang. 2010. Analysis of Flavonoids in *Portulaca oleracea* L. by UV-Vis Spectrophotometry with Comparative Study on Different Extraction Technologies. *Food Analytical Methods* 3(2):90-97. http://www.researchgate.net/publication/225565538_Analysis_of_Flavonoids_in_Portulaca_oleracea_L._by_UVVis_Spectrophotometry_with_Comparative_Study_on_Different_Extraction_Technologies (07 Oktober 2015).